

ception, showed the outer branchiæ charged with ova, most of them containing young embryos. At the same time their gonads contained ova in various stages of development in the inferior parts, and sperma, mature and immature, in the superior and usually more anterior parts, both elements being in somewhat various proportions as to quantity and the space occupied. In one specimen sperma bearing nuclei were not distinctly seen, but microscopic examination showed spermatozoids among the ova, the two evidently mixed up artificially.

The shells of these specimens were of somewhat different shapes: a part had the inferior margin evenly curved, while in others it was more straight, or even slightly sinuous in the middle, still others being intermediate. These differences are regarded as indicating sexual differences in other (true) Anodontæ by many conchologists, and it remains to prove or disprove that by examining large numbers of specimens.

SAN DIEGO, CALIFORNIA, AS A COLLECTING GROUND.

BY F. W. KELSEY.

This subject has probably been thoroughly discussed by collectors far better versed in conchology than I, but a few lines from this quarter may be of interest to those who, like myself, are comparatively speaking, novices.

About two years ago I began to feel an interest in shells, other than that caused by a mere admiration of their diversified forms, colors, markings, etc., and since that time, I have spent much of my spare time collecting, studying, and classifying the many mollusks which abound in our bay and in the waters of the adjacent coast.

The weather and other circumstances permitting, I spend at least two Saturdays of each month collecting, and the following list of species obtained on my last trip, Saturday, October 29th, will give the reader some idea of the variety of little rock dwellers of this locality.

On the above date, my wife and I landed in a skiff on the reef extending out from Pt. Loma, just below the light-house where several acres of rocks are laid bare by the receding tide. We hunted from noon until four o'clock among the eel grass, sea anemones, ribbon kelp and rocks, with such keen enjoyment that we

were sorry to leave the fascinating search and return to the more commonplace affairs of every-day life.

On cleaning up the result of the day's hunt, we counted the following list consisting of 83 species, aggregating 1,117 specimens nearly all of which are live shells in good condition :

<i>Erato columbella</i> , Menke. 1	<i>Lucina Californica</i> , Conr. 5
<i>Erato vittellina</i> , Hds. 1	<i>Hipponyx antiquatus</i> , Linn. 4
<i>Norrisia Norrisii</i> , Sby. 16	<i>Hipponyx tumens</i> , Cpr. 4
<i>Phasianella compta</i> , Gld. 41	<i>Haminea virescens</i> , Sby. 4
<i>Haliotis splendens</i> , Rve. 29	<i>Acmæa depicta</i> , Gld. 3
<i>Haliotis cracherodii</i> , Leach. 2	<i>Acmæa inessa</i> , Hds. 7
<i>Haliotis corrugata</i> , Gray 1	<i>Acmæa palacea</i> , Gld. 6
<i>Haliotis</i> sp. 1	<i>Crepidula adunca</i> , Sby. 3
<i>Acmæa asmi</i> , Midd. 11	<i>Crepidula dorsata</i> , Brod. 3
<i>Acmæa mitra</i> , Esch. 1	<i>Crepidula aculeata</i> , Gmel. 2
<i>Acmæa patina</i> , Esch. 7	<i>Crepidula navicelloides</i> , Nutt. 4
<i>Acmæa persona</i> , Esch. 12	<i>Fissurella volcano</i> , Rve. 25
<i>Acmæa scabra</i> , Nutt. 3	<i>Calliostoma gemmulatum</i> , Cpr. 4
<i>Acmæa spectrum</i> , Nutt. 6	<i>Chama exogyra</i> , Conr. 2
<i>Opalia crenatoides</i> , Gld. 6	<i>Chama pellucida</i> , Sby. 1
<i>Lazaria subquadrata</i> , Cpr. 1	<i>Nassa Cooperi</i> , Fbs. 37
<i>Monocerus engonatum</i> , Conr. 6	<i>Omphalius fuscescens</i> , Phil. 36
<i>Monocerus</i> var. <i>spiratum</i> , 3	<i>Cerostoma Nuttalli</i> , Conr. 58
<i>Ocenebra interfossa</i> , Cpr. 2	<i>Saxicava arctica</i> , Linn. 2
<i>Ocenebra circumtexta</i> , Stearns 2	<i>Litorina planaxis</i> , Nutt. 14
<i>Chlorostoma aureotinctum</i> , Fbs. 47	<i>Litorina scutulata</i> , Gld. 7
<i>Chlorostoma gallina</i> , Fbs. 4	<i>Mopalia muscosa</i> , Gld. 5
<i>Chlorostoma funebre</i> , A. Ad. 3	<i>Ischnochiton magdalenensis</i> , Hds. 31
<i>Mitra maura</i> , Swains. 9	<i>Ischnochiton regularis</i> , Cpr. 6
<i>Macon lividus</i> , A. Ad. 124	<i>Trachydermon Nuttalli</i> , Cpr. 8
<i>Volvarina varia</i> , Sby. 154	<i>Trivia Californica</i> , Gray 1
<i>Mytilus bifurcatus</i> , Conr. 10	<i>Pomaulax undosus</i> , Wood. 2
<i>Olivella biplicata</i> , Sby. 60	<i>Ianthina trifida</i> , Nutt. 1
<i>Actæon punctocaelatus</i> , Cpr. 1	<i>Odostomia nuciformis</i> , Cpr. 6
<i>Leptothyra carpenteri</i> , Pils. 72	<i>Odostomia gouldii</i> , Cpr. 1
<i>Leptothyra bacula</i> , Cpr. 17	<i>Astyris gausapata</i> , Gld. 7
<i>Leptothyra pausicostata</i> , Dall. 3	<i>Astyris tuberosa</i> , Cpr. 15
<i>Diplodonta orbella</i> , Gld. 1	<i>Scalaria Hindsii</i> , Cpr. 7
<i>Drillia moesta</i> , Cpr. 2	<i>Conus Californicus</i> , Hds. 3
<i>Lacuna unifasciata</i> , Cpr. 12	12 species unknown to me, 96
<i>Amphissa versicolor</i> , Dall. 12	

NEW SPECIES OF BIFIDARIA.

BY DR. V. STERKI.

Bifidaria perversa n. sp.

Shell sinistrorse, oblong-cylindro conical, horn-colored, translucent: apex rather acute; base umbilicate-rimate, the umbilicus partly overlaid by a projecting part of the last whorl; whorls $5\frac{1}{2}$, rather slowly and regularly increasing, convex, with the suture moderately deep, the last equaling two-fifths of altitude, slightly narrowed at the periphery, at last somewhat ascending and then protracted horizontally beyond the periphery of the spire, for a length equal to one-third of the diameter, with a rather high, oblique crest-swelling all around, in front of that contracted, and margins broadly everted all around at the aperture: on the palatal side of the protracted part, behind the aperture, a deep longitudinal (=spiral) impression; surface slightly shining, with fine, almost regular, crowded striae; nucleus microscopically rugulose; aperture of moderate size, rounded below, truncated above, with a sinus occupying the upper half of the palatal side. Lamellae and folds: angulo-parietal large; angular at its inner end joining the side of the parietal, with a curve reaching the margin at the supero-parietal angle; parietal very high, strongly curved, the (inner) convexity toward the columella, its front end at a rather large distance from the supero-columellar angle; columellar spiral, with its front end on the parietal wall, its inner part not visible; basal radial, lamellar, high; inferior palatal fold very deep in the throat, long, lamellar, curved downward over the basal, visible only from the outside; superior quite short, high, tooth-like, in front of the inferior.

Alt. 2.3, diam. of spire 1.1, whole diam. 1.5 mm.; apert. alt. 0.8, diam. 0.6 mm.

Habitat.—Nogales, Arizona, on the Mexican border. Collected by Mr. E. H. Ashmun, together with *Bif. Ashmuni* (see below) and the following species:

Bif. perversa is unlike any other species of the genus, by its being sinistrorse and the last whorl protracted considerably beyond the periphery of the spire. In size, shape, color, striation, the con-